



Time : 1 hr. 40 mins.

Total Marks : 400

Important Instructions :

1. This Test contains 100 items (questions) Each item comprises four responses (answers). You will select the response which you want to mark on the Answer Sheet. In case, you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE** response for each item.
2. You have to mark all your responses **ONLY** on the separate Answer Sheet provided.
3. **All** items carry equal marks.
4. Before you proceed to mark in the Answer Sheet the response to various items in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per instructions.
5. Penalty for wrong answers:
THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY A CANDIDATE IN THE OBJECTIVE TYPE QUESTION PAPERS.
 - (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, one-third of the marks assigned to that question will be deducted as penalty.
 - (ii) If a candidate gives more than one answer, it will be treated as a wrong answer even if one of the given answers happens to be correct and there will be same penalty as above to that question.
 - (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be no penalty for that question.

1. Which one of the following was composed by Harishena?
 - (a) Nashik Inscription of Gautami Balashri
 - (b) Prayaga Prashasti of Samudragupta
 - (c) Deopara Prashasti of Vijayasena
 - (d) Hathigumpha Inscription of Kharavela
2. Consider the following events :
 1. Establishment of the Planning Commission
 2. Formation of the National Development Council (NDC)
 3. Approval of the First Five-Year Plan by the NDC
 4. Constitution of the National Planning CommitteeWhich one of the following is the correct sequence of the above events?
 - (a) 1-2-3-4
 - (b) 2-1-3-4
 - (c) 4-1-2-3
 - (d) 1-4-2-3
3. Which one of the following battles could be seen as laying the formal foundation of the British Raj in India?
 - (a) Third Battle of Panipat
 - (b) Battle of Plassey
 - (c) Battle of Buxar
 - (d) Revolt of 1857
4. Where in South India did the British East India Company construct a trading post in 1639?
 - (a) Cuddalore
 - (b) Madraspatam
 - (c) Kalahasti
 - (d) Karwar
5. Which of the following statements is/ are correct?
 1. The Dutch East India Company was formed after the formation of the British East India Company.
 2. Vasco da Gama reached Calicut in 1498.
Select the correct answer using the code given below.
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
 6. In India, a cultivable land which is left uncultivated for more than a year but less than five years is labelled as
 - (a) cultivable wasteland
 - (b) current fallow
 - (c) fallow other than current fallow
 - (d) barren and wasteland
 7. The major portion of the Great Artesian Basin in Australia is located in
 - (a) Western Australia
 - (b) Victoria
 - (c) Queensland
 - (d) Northern Territory
 8. Which of the following statements is/are correct?
 1. India has one of the longest navigable inland water networks in the world.

- Inland waterways presently help in transporting about 25 percent of the total cargo movement.
- About 111 inland waterways have been declared as National Waterways under the National Waterways Act, 2016.

Select the correct answer using the code given below.

- (a) 1, 2 and 3 (b) 1 and 2 only
(c) 3 only (d) 1 and 3 only

- Match List-I with List-II and select the correct answer using the code given below the Lists :

<i>List-I</i> (Railway Zone)	<i>List-II</i> (Headquarters)
A. East Central	1. Gorakhpur
B. North Eastern	2. Jaipur
C. Northeast Frontier	3. Hajipur
D. North Western	4. Maligaon

Code :

- | | | | | |
|-----|---|---|---|---|
| (a) | A | B | C | D |
| | 3 | 4 | 1 | 2 |
| (b) | A | B | C | D |
| | 3 | 1 | 4 | 2 |
| (c) | A | B | C | D |
| | 2 | 1 | 4 | 3 |
| (d) | A | B | C | D |
| | 2 | 4 | 1 | 3 |

- Which one of the following statements about earthquake waves is *not* correct?
 - P waves move faster and are the first to arrive at the surface.
 - P waves can travel through gaseous, liquid and solid materials.
 - Seismographs located beyond 145° from epicentre can record the arrival of P waves.
 - P waves have maximum area covered under its shadow zone.
- The commercial unit of electrical energy is kilowatt-hour (kWh), which is equal to
 - 3.6×10^6 J
 - 3.6×10^3 J
 - 10^3 J
 - 1 J
- Which one of the following statements regarding a current-carrying solenoid is *not* correct?
 - The magnetic field inside the solenoid is uniform.
 - The current-carrying solenoid behaves like a bar magnet.
 - The magnetic field inside the solenoid increases with increase in current.

(d) If a soft iron bar is inserted inside the solenoid, the magnetic field remains the same.

- An object is made of two equal parts by volume; one part has density ρ_0 and the other part has density $2\rho_0$. What is the average density of the object?
 - $3\rho_0$
 - $\frac{3}{2}\rho_0$
 - ρ_0
 - $\frac{1}{2}\rho_0$
- A pressure cooker cooks food faster by
 - increasing the boiling point of water
 - decreasing the boiling point of water
 - increasing the melting point of water
 - decreasing the melting point of water
- Which one of the following wavelengths corresponds to the wavelength of X-rays?
 - 500 nm
 - 5000 nm
 - 100 nm
 - 1 nm
- An electric bulb is connected to 220 V generator. The current drawn is 600 mA. What is the power of the bulb?
 - 132 W
 - 13.2 W
 - 1320 W
 - 13200 W
- When the pitch of sound increases, which one of the following increases?
 - Intensity
 - Loudness
 - Wavelength
 - Frequency
- Which one of the following is the correct reactivity series with water?
 - Zinc > Iron > Lead > Copper
 - Copper > Lead > Zinc > Iron
 - Copper > Zinc > Iron > Lead
 - Zinc > Copper > Iron > Lead
- Which one of the following metals floats in cold water?
 - Magnesium
 - Calcium
 - Potassium
 - Copper
- Which one of the following solutions is not capable of conducting electricity?
 - Copper sulphate
 - Sodium chloride
 - Sugar
 - Sodium hydroxide
- To help deep-sea divers breathe, they carry cylinders of oxygen mixed with
 - chlorine
 - helium
 - nitrogen
 - ozone
- Which of the following compounds undergoes/undergo thermal decomposition?

- (a) Zinc oxide
(b) Silver oxide and zinc oxide
(c) Silver oxide
(d) Magnesium oxide
23. The transfer of electrical signals by nerve cells in human body is enabled by
(a) sodium
(b) potassium
(c) iron
(d) sodium and potassium
24. Silver artefacts get tarnished in air due to the formation of
(a) silver chloride (b) silver oxide
(c) silver sulphide (d) silver sulphate
25. Human eye can see objects at different distances with contrasting illuminations. This is due to
(a) far-sightedness
(b) near-sightedness
(c) far-sightedness and near sightedness
(d) accommodation of eye
26. Which one of the following hormone increases the heartbeat in mammals?
(a) Insulin (b) Melatonin
(c) Thyroxine (d) Adrenaline
27. The digestion of fat in human intestine is performed by
(a) trypsin (b) bile and lipase
(c) bile and amylase (d) bile and pepsin
28. Which one of the following statement about animal cells and plant cells is correct?
(a) Animal cells have only cell membrane not cell wall, whereas plant cells have only cell wall not cell membrane.
(b) Animal cells have only cell membrane not cell wall, but plant cells have both.
(c) Both animal and plant cells have cell membrane and cell wall.
(d) Only some cells of animals have cell wall and all plant cells have cell membrane.
29. Lymph is a tissue fluid present in intercellular spaces. It resembles to
(a) digestive juice (b) cytoplasmic fluid
(c) urine (d) plasma
30. The breakdown of glucose in cytoplasm results in the formation of
(a) pyruvate and energy
(b) pyruvate and carbon dioxide
(c) pyruvate and oxygen
(d) pyruvate and nitrogen
31. Rafael Nadal defeated whom among the following to win the French Open Tennis Tournament, 2022?
(a) Austin Krajicek (b) Ivan Dodig
(c) Casper Ruud (d) Joran Vliegen
32. eSanjeevani, the free telemedicine service of the Government of India, was recently integrated with the
(a) Ayushman Bharat Digital Mission
(b) Aam Aadmi Bima Yojana
(c) Pradhan Mantri Suraksha Bima Yojana
(d) Universal Health Insurance Scheme
33. Which of the following statements about 'SHRESHTA' scheme, launched recently by the Government of India, is/are correct?
1. This scheme is for residential education for students in high school in targeted areas.
2. It provides for high quality education for meritorious but poor Scheduled Caste students.
- Select the correct answer using the code given below.
(a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
34. In a recent judgement, the Supreme Court of India directed that every protected forest, national park and wildlife sanctuary across the country should have a mandatory eco-sensitive zone (ESZ) of a minimum of
(a) 1 km starting from their demarcated boundaries
(b) 2 km starting from their demarcated boundaries
(c) 3 km starting from their demarcated boundaries
(d) 5 km starting from their demarcated boundaries
35. Who among the following is the author of the book, *Tomb of Sand* ?
(a) Arundhati Roy (b) Geetanjali Shree
(c) Chetan Bhagat (d) Jhumpa Lahiri
36. Who among the following invented the flying shuttle?
(a) James Hargreaves (b) John Kay
(c) Richard Arkwright (d) Humphry Davy
37. Where did Netaji Subhas Chandra Bose announce the formation of the Government of Free India in 1943?
(a) Singapore (b) Shanghai
(c) Berlin (d) Mandalay

38. Who among the following introduced the 'Objective Resolution' in the Constituent Assembly on 13th December, 1946?
- Jawaharlal Nehru
 - Rajendra Prasad
 - B. R. Ambedkar
 - Alladi Krishnaswami Aiyar
39. Consider the following historical events :
- Gandhi-Irwin Pact
 - Second Round Table Conference
 - Peasant Movement in Bardoli
 - Peasant Movement in Kheda
- Which one of the following is the correct chronological order (starting from the earliest) of the above events?
- 4-1-3-2
 - 4-3-1-2
 - 3-1-2-4
 - 1-2-4-3
40. Which of the following statements about the Unionist Party is/are correct?
- It was a political party representing the interests of landholders in Punjab.
 - It was opposed to the idea of the partition of India as India and Pakistan.
- Select the correct answer using the code given below.
- 1 only
 - 2 only
 - Both 1 and 2
 - Neither 1 nor 2
41. Which one of the following statements about metamorphic rocks is not correct?
- Due to segregation of minerals into wavy bands or platy surfaces, some metamorphic rocks develop foliations.
 - Where the foliations develop into broad mineral bands, the metamorphic rock is extremely hard.
 - Where the foliations are moderately thin, the metamorphic rock tends to flake apart.
 - Rocks that originally were composed of one dominant mineral are often foliated by metamorphism.
42. Which one of the following 'discontinuities' separates the Earth's crust from the mantle?
- Gutenberg
 - Mohorovicic
 - Conrad
 - Repetti
43. Which one of the following cities of the world would represent the greatest linear velocity of rotation of the Earth?
- Kampala, Uganda
 - St. Petersburg, Russia
 - Madrid, Spain
 - Stockholm, Sweden
44. What will happen if you are flying east across the International Date Line?
- You will lose 12 hours
 - You will gain 12 hours
 - You will gain 24 hours
 - You will lose 24 hours
45. The Prime Meridian does not pass through which one of the following African countries?
- Morocco
 - Algeria
 - Mali
 - Ghana
46. Piecing together the puzzle of geologic time to create and analyze historical maps of the Earth is known as
- paleoclimatology
 - paleogeomorphology
 - paleolithology
 - paleogeography
47. What is the nature of velocity-time graph for a car moving with uniform acceleration?
- Parabola
 - Logarithmic
 - Straight line
 - Exponential
48. The amplitude of sound waves is measured in the units of
- pressure
 - distance
 - time
 - speed
49. A current of 0.6 A is drawn by an electric bulb for 10 minutes. Which one of the following is the amount of electric charge that flows through the circuit?
- 6 C
 - 0.6 C
 - 360 C
 - 36 C
50. A DC generator works on the principle of
- Ohm's law
 - Joule's law of heating
 - Faraday's laws of electromagnetic induction
 - None of the above
51. The presence of magnetic field can be determined using which one of the following instruments?
- Ammeter
 - Voltmeter
 - Magnetic needle
 - Motor
52. Which one of the following statements about speed and velocity is correct?
- Speed and velocity both are vector quantities.
 - Speed and velocity both are scalar quantities.
 - Speed is vector quantity and velocity is scalar quantity.
 - Speed is scalar quantity and velocity is vector quantity.

53. Bronze is an alloy of
(a) Cu and Zn (b) Cu and Sn
(c) Zn and Mg (d) Fe and Cu
54. Which one of the following salts does not possess water of crystallisation?
(a) Potassium permanganate
(b) Blue vitriol
(c) Washing soda
(d) Mohr's salt
55. Bee sting leaves an acid which causes pain and irritation. The acid released is
(a) tartaric acid (b) citric acid
(c) ethanoic acid (d) methanoic acid
56. Liquid vegetable oils are converted to solid margarine by the use of
(a) hydrogen gas (b) chlorine gas
(c) carbon dioxide gas (d) oxygen gas
57. The number of structural isomers of pentane is
(a) 5 (b) 4
(c) 2 (d) 3
58. Vapours of sulphur escaping from a volcano often form a crust on the rocks. The process involved is an example of
(a) condensation (b) precipitation
(c) deposition (d) evaporation
59. Dry ice is used on a performing stage to produce mist in air. The process involved is an example of
(a) sublimation (b) evaporation
(c) condensation (d) precipitation
60. C_4H_8 belongs to the homologous series of
(a) alkanes (b) alkenes
(c) alkynes (d) cycloalkanes
61. The protein-digesting enzyme secreted by the stomach wall in case of mammals is called
(a) chitinase (b) amylase
(c) pepsin (d) trypsin
62. Which one of the following will be resulted when an animal cell is surrounded by a medium with lower concentration of water?
(a) Cell will lose water
(b) No change in movement of water
(c) Cell will gain water
(d) Cell will swell up
63. The digestive enzymes are present in
(a) mitochondria
(b) vacuoles
(c) lysosomes
(d) ribosomes
64. After fertilization, the fruit and the seed are produced by
(a) ovule and ovary, respectively
(b) ovary and ovule, respectively
(c) ovary, no ovule required
(d) ovule, no ovary required
65. Which among the following has initiated a nationwide flagship campaign 'Puneet Sagar Abhiyan' to clean seashores/ beaches and other water bodies of plastic and other waste materials?
(a) Indian Coast Guard
(b) National Cadet Corps (NCC)
(c) Indian Navy
(d) Swachh Bharat Mission
66. Which among the following was the host country of the United Nations World Environment Day, 2022?
(a) Canada (b) Sweden
(c) South Africa (d) Brazil
67. Which of the following Indian Naval Ships were decommissioned in June 2022?
(a) INS Ganga and INS Nipat
(b) INS Nishank and INS Akshay
(c) INS Khukri and INS Sandhayak
(d) INS Gomati and INS Ranjit
68. India signed a deal with which one of the following countries to supply MH-60R helicopters to the Indian Navy?
(a) Israel (b) France
(c) Russia (d) USA
69. With reference to India's defence, the terms 'Surat' and IJdaygiri' refer to
(a) coast guard patrol boats
(b) cargo helicopters
(c) maritime patrol aircrafts
(d) warships
70. Who among the following laid the foundation of the Vijayanagara Empire?
(a) Harihara and Bukka
(b) Krishnadeva Raya
(c) Rama Raya
(d) Virupaksha Raya
71. The book, Kalila wa Dimna is an Arabic translation of the
(a) Hitopadesha
(b) Panchatantra
(c) Suryasiddhanta
(d) Kathasaritsagar

72. Who among the following initiated the Bhoodan Movement?
 (a) Ram Prasad Bismil
 (b) Vinoba Bhave
 (c) Mahatma Gandhi
 (d) Kanhu Murmu
73. Which one of the following rivers in India was *not* crossed by Alexander and his army?
 (a) Hyphasis (b) Acesines
 (c) Hydraotes (d) Hydaspes
74. Who among the following has described the medieval Indian postal system as of two kinds—the horse-post called 'Uluq' and the foot-post called 'Dawa'?
 (a) Al-Biruni (b) Duarte Barbosa
 (c) Ibn Battuta (d) Seydi Ali Reis
75. At which among the following Harappan sites are fire altars found?
 (a) Kalibangan (b) Harappa
 (c) Mohenjo-daro (d) Rakhi Garhi
76. Consider the following statements on computation of density :
1. Physiological density can be computed by dividing the total population by the net cultivable area.
 2. Agricultural density can be computed by dividing the total agricultural population by the net cultivable area.
 3. Population density can be computed by dividing the total population by the total area.
- How many of the above statements is/are correct?
 (a) 1 (b) 2
 (c) 3 (d) None
77. The formation of 'tors' on small rocky hills is associated with which among the following?
 (a) Granite (b) Limestone
 (c) Alluvial (d) Dolomite
78. Consider the following statements about anticyclones :
1. Anticyclones are high pressure systems.
 2. Air in the centre of the system must be subsiding.
 3. Anticyclones are characterized by converging winds.
- How many of the above statements is/are correct?
 (a) 1 (b) 2
 (c) 3 (d) None
79. Which of the following statements is/are correct?
 1. The Earth's crust is brittle in nature.
 2. The mean thickness of the oceanic crust is 15 km, whereas that of the continental crust is around 30 km.
 Select the correct answer using the code given below.
 (a) 1 only (b) 2 only
 (c) Both 1 and 2 (d) Neither 1 nor 2
80. In January 2020, the administration of which of the following Union Territories has been merged together?
 (a) Daman and Diu and Puducherry
 (b) Puducherry and Dadra and Nagar Haveli
 (c) Puducherry and Andaman and Nicobar Islands
 (d) Dadra and Nagar Haveli and Daman and Diu
81. Two convex lenses have focal lengths of 50 cm and 25 cm, respectively. If these two lenses are placed in contact, then the net power of this combination will be equal to
 (a) + 2 dioptre (b) + 6 dioptre
 (c) - 6 dioptre (d) + 3 dioptre
82. Which one of the following terms cannot represent electrical power in a circuit?
 (a) VI (b) I^2/R
 (c) I^2R (d) V^2/R
83. The refractive index of crown glass is close to $3/2$. If the speed of light in air is c , then the speed of light in the crown glass will be close to
 (a) $(3/2)c$ (b) $(4/9)c$
 (c) $(2/3)c$ (d) $(9/4)c$
84. The volume of a sealed packet is 1 litre and its mass is 800 g. The packet is first put inside water with density 1 g cm^{-3} and then in another liquid B with density 1.5 g cm^{-3} . Then which one of the following statements holds true?
 (a) The packet will float in both water and liquid B .
 (b) The packet will sink in both water and liquid B .
 (c) The packet will sink in water but will float in liquid B .
 (d) The packet will float in water and sink in liquid B .
85. A simple pendulum having bob of mass m and length of string l has time period of T . If the mass of the bob is doubled and the length of

the string is halved, then the time period of this pendulum will be

- (a) T (b) $T/\sqrt{2}$
(c) $2T$ (d) $\sqrt{2} T$

86. In which one of the following devices, the light energy is converted into the electrical energy?

- (a) Light-emitting diode
(b) Laser diode
(c) Solar cell
(d) Transistor

87. Which one of the following is *not* a power of Panchayats under Article 243G?

- (a) Land improvement
(b) Implementation of land reforms
(c) Land consolidation and soil conservation
(d) Regulation of land revenue

88. Match List-I with List-II and select the correct answer using the code given below the Lists :

<i>List-I</i> (Mahamatta)	<i>List-II</i> (Function)
A. Anta-mahamatta	1. Women's welfare
B. Ithihakha-mahamatta	2. Spread of Dhamma
C. Dhamma-mahamatta	3. Associated with city administration
D. Nagalaviyohalaka mahamatta	4. In-charge of frontier areas

Code :

- | | | | | |
|-----|---|---|---|---|
| (a) | A | B | C | D |
| | 3 | 2 | 1 | 4 |
| (b) | A | B | C | D |
| | 3 | 1 | 2 | 4 |
| (c) | A | B | C | D |
| | 4 | 1 | 2 | 3 |
| (d) | A | B | C | D |
| | 4 | 2 | 1 | 3 |

89. Who among the following is the author of the *Hastyayurveda* ?

- (a) Palakapya (b) Vagbhata
(c) Sushruta (d) Charaka

90. Which one of the following areas was acquired by the British under the Treaty of Deogaon, 1803?

- (a) Cuttack (b) Murshidabad
(c) Surat (d) Calicut

91. Consider the following statements :

1. Maharashtra State has the maximum share of national highways (length in kilometres).

2. The nature of terrain and the level of economic development is one of the reasons for the maximum share of national highways in Maharashtra.

Which of the statements given above is/are correct?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

92. The activities or services focussed on creation, rearrangement and interpretation of new and existing ideas are referred to as

- (a) quaternary activities
(b) quinary activities
(c) tertiary activities
(d) secondary activities

93. Consider the following statements about 'Ude Desh ka Aam Nagrik (UDAN)' scheme :

1. It is an innovative scheme to develop the regional aviation market.
2. It creates affordability yet economically viable and profitable flight on regional routes.

Which of the statements given above is/are correct?

- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2

94. Consider the following statements :

1. The Sharavati river creates Jog Falls.
2. The Brahmani river is formed by the confluence of the Kosi and Sankh rivers.
3. The Tamraparni is a river of Tirunelveli district of Tamil Nadu.

How many of the above statements is/are correct?

- (a) 1 (b) 2
(c) 3 (d) None

95. SONAR is a device that is used to measure the distance of underwater objects by a ship. Which of the following types of waves does it use for this purpose?

- (a) Infrasonic waves
(b) Sound waves in audible range for human beings
(c) Ultrasonic waves
(d) All of the above

96. Which one of the following statements about the speed of sound waves is *not* correct?

- (a) The speed of sound waves in steel is higher than that in water.
(b) The speed of sound waves in air decreases with increase in temperature.

- (c) The speed of sound waves in air increases with increase in temperature.
- (d) The speed of sound waves in water is higher than that in air.
97. The part of the human ear that converts the pressure variations associated with audible sound waves to electrical signals is
- (a) auditory nerve (b) cochlea
(c) eardrum (d) eustachian tube
98. Which one of the following metals is most commonly used for making filament of incandescent electric bulbs?
- (a) Aluminium (b) Silver
(c) Copper (d) Tungsten
99. A bullet of mass 10 g is horizontally fired with velocity 300 m s^{-1} from a pistol of mass 1 kg. What is the recoil velocity of the pistol?
- (a) 0.3 m s^{-1} (b) 3 m s^{-1}
(c) -3 m s^{-1} (d) -0.3 m s^{-1}
100. A microphone converts
- (a) electrical signals to sound waves
(b) sound waves to electrical signals
(c) microwaves to sound waves
(d) sound waves to microwaves

Answers

GENERAL ABILITY TEST

Q No	Answer Key	Topic Name	Chapter Name
1	(b)	Gupta Empire	Ancient History
2	(c)	Planning Commission of India	Economics
3	(b)	The battle of Plassey	Medieval History
4	(b)	Establishment of British factory	Medieval History
5	(c)	Miscellaneous Topic	Medieval History
6	(c)	Type of Land	Geography
7	(c)	The Great Artesian Basin	Geography
8	(c)	Inland Waterways	Geography
9	(b)	General knowledge	Current Affairs
10	(d)	The shadow zone	Geography
11	(a)	Electric Power	Electricity & Magnetism
12	(d)	Moving Charges and Magnetism	Electricity & Magnetism
13	(b)	Density	Units and Dimensions
14	(a)	Colligative Properties	Solutions
15	(d)	Electromagnetic Spectrum	Electricity & Magnetism
16	(a)	Electric Power	Electricity & Magnetism
17	(d)	Properties of Sound Wave	Sound
18	(a)	Classification of elements and periodicity in properties	Elements Classifications & Chemical Bonding
19	(b)	Properties of metals and non metals	Metals and Non metals
20	(c)	Electrolytes and Non-electrolytes	Acids, Bases and Salts
21	(b)	<i>p</i> -block elements	Elements Classifications & Chemical Bonding
22	(b)	Chemical Reactions and Equations	Elements Classifications & Chemical Bonding
23	(a)	<i>s</i> -block Elements	Elements Classifications & Chemical Bonding
24	(c)	Redox Reactions	Elements Classifications & Chemical Bonding
25	(d)	Human Eye	Ray Optics
26	(d)	Hormones	Physiology of Plants and Animals
27	(b)	Animal Nutrition and Digestive System	Physiology of Plants and Animals
28	(b)	Types of Cells	Cells & its Division
29	(d)	Lymph	Tissue
30	(a)	Respiration:Need & Types	Health & Diseases
31	(c)	French Open 2022	Current Affairs
32	(a)	Ayushman Bharat Digital Mission	Current Affairs

Q No	Answer Key	Topic Name	Chapter Name
33	(c)	'SHRESHTA' scheme	Current Affairs
34	(a)	Wildlife Sanctuary	Current Affairs
35	(b)	Book & Author	Current Affairs
36	(b)	Flying Shuttle Machine	Static GK
37	(a)	Azad Hind Government	Modern History
38	(a)	Objective Resolution	Modern History
39	(b)	Chronological Order of Historical Events	Modern History
40	(c)	National Unionist Party	Modern History
41	(a)	Metamorphic rocks	Geography
42	(b)	Earth's crust and the mantle	Geography
43	(a)	Linear Velocity of Rotation of the Earth	Geography
44	(d)	International Date Line	Geography
45	(a)	Prime Meridian	Geography
46	(b)	Concept of Paleogeomorphology	Geography
47	(c)	Motion in a Straight Line	Laws of Motion
48	(b)	Properties of Waves	Waves
49	(c)	Charges	Electricity & Magnetism
50	(c)	Electric Motor	Electricity & Magnetism
51	(c)	Magnetic Field Lines	Electricity & Magnetism
52	(d)	Physical Quantities	Units and Dimensions
53	(b)	Alloys	Metals and Non metals
54	(a)	Properties of d and f-block elements	Elements Classification & Chemical Bonding
55	(d)	Carbon & It's compounds	Organic Chemistry
56	(a)	Hydrocarbon	Organic Chemistry
57	(d)	Isomers	Organic chemistry
58	(a)	Vapours of Sulphur	Physical and Chemical Changes
59	(a)	Matter in our surroundings	Physical and Chemical Changes
60	(b)	Homologous series	Physical and Chemical Changes
61	(c)	Hormones	Physiology of Plants and Animals
62	(a)	Animal Cell	Cells
63	(c)	Digestive Enzymes	Physiology of Plants and Animals
64	(b)	Reproduction in plants	Physiology of Plants and Animals
65	(b)	National Cadet Corps	Current Affairs
66	(b)	Important Days	Current Affairs
67	(b)	Indian Naval Ships	Current Affairs
68	(d)	Defence Deal	Current Affairs
69	(d)	Warships of the Indian Navy	Current Affairs
70	(a)	Vijayanagara Empire	Medieval History
71	(b)	Book and Author	Static GK

Q No	Answer Key	Topic Name	Chapter Name
72	(b)	The Bhoodan Movement	Static GK
73	(d)	Alexander	Ancient History
74	(c)	Achievements of Ibn Battuta	Medieval History
75	(a)	Indus Valley Sites	Ancient History
76	(c)	Computation of Density	ECONOMICS
77	(a)	Rock and Mountains	Geography
78	(b)	Wind, Storms, Cyclones.	Geography
79	(a)	Earth's crust	Geography
80	(d)	The merger of the Union Territories (UTs)	Indian Constitution
81	(b)	Power of Lens	Ray Optics
82	(b)	Electric Power	Electricity & Magnetism
83	(c)	Refractive Index	Ray Optics
84	(a)	Density	Fluid Mechanics
85	(b)	Time Period of a Simple Pendulum	Oscillations
86	(c)	Solar Cell	Semiconductor devices
87	(d)	Panchayati Raj	Indian Constitution
88	(c)	Maurya Period	Ancient History
89	(a)	Book and Author	Static GK
90	(a)	Treaty of Deogaon	Modern History
91	(c)	National Highways	Current Affairs
92	(b)	Quinary activities	Economics
93	(c)	UDAN)	Current Affairs
94	(b)	Rivers in India	Geography
95	(c)	Properties of Sound Wave	Waves
96	(c)	Properties of Sound Wave	Waves
97	(b)	Properties of Sound	Waves
98	(d)	Uses of Metals	Metals and Non-Metals
99	(c)	Momentum	Laws of Motion
100	(b)	Sonic Devices	Waves

ANSWERS WITH EXPLANATION

1. **Option (b) is correct.**

Explanation :

Harishena was the court poet of king Samudragupta in the Gupta Empire. He was considered a high-ranking Gupta poet. He composed Prashati in praise of Samudragupta. It is the famous Allahabad Prashasti which describes Samudragupta as a great warrior and a great king.

2. **Option (c) is correct.**

Explanation :

4	Constitution of the National Planning Committee	1938
1	Establishment of Planning Commission	15 March, 1950
2	Formation of National Development Council	6 August, 1952
3	Approval of first five-year plan by NDC	8-9 November 1952

3. **Option (b) is correct.**

Explanation :

The battle of Plassey laid the formal foundation of the British Raj in India. This was a decisive battle between the Indian rulers and the British. The Battle of Plassey took place on 23 June 1757 between the East India Company headed by Robert Clive and the Nawab of Bengal (Siraj-Ud-Daulah) and his French Troop, in which the British East India Company won a decisive victory.

4. **Option (b) is correct.**

Explanation :

Madras was established on 22 August 1639. Here the British East India Company had built a trading Post. The British East India Company first settled in southern India in 1611, but moved to the area of Madras in 1639 in order to be near the established textile weavers' communities. Present day Chennai was then known as Madraspatnam.

5. **Option (c) is correct.**

Explanation :

Both the above statements are true.

The Dutch East India Company was a chartered company established in 1602, after the formation of the British East India Company. The English founded the East India Company in 1600.

Vasco da Gama, was a Portuguese explorer and the first European to reach India by sea. Vasco da Gama reached Calicut in May 1498.

6. **Option (c) is correct.**

Explanation :

When the cultivable land is left uncultivated for more than a year but less than five years, it is categorized as fallow other than current fallow but if the land is left uncultivated for more than five years, it would be categorized as culturable wasteland.

7. **Option (c) is correct.**

Explanation :

The Great Artesian Basin is located in Australia. The GAB is Australia's most important hydrogeological system covering an area of 1.7 million square kilometers. The major part of this basin lies beneath parts of Queensland.

8. Option (c) is correct.

Explanation:

Instead of India, China has more than 125,000 km of navigable inland waterways. It is the most extensive system of any country in the world. India's cargo movement through inland waterways is only 0.5 percent. About 111 inland waterways have been declared as National Waterways under the National Waterways Act, 2016.

Thus, only statement 3 from the above is correct.

9. Option (b) is correct.

Explanation:

	(Railway Zone)		(Headquarters)
A	East Central	3	Hajipur
B	North Eastern	1	Gorakhpur
C	Northeast Frontier	4	Maligaon
D	North Western	2	Jaipur

10. Option (d) is correct.

Explanation:

Only statement (d) is not true regarding earthquake waves. The shadow zone of S-waves is larger than P-waves. P-waves shadow zones are formed due to refraction, which causes the waves to deviate away. Apart from (d) rest all the statements are correct.

11. Option (a) is correct.

Explanation:

$$1 \text{ kWh} = 1000 \text{ W} \times 60 \times 60 \text{ sec} = 3.6 \times 10^6 \text{ J}$$

12. Option (d) is correct.

Explanation:

Magnetic field inside a current carrying solenoid is uniform, hence it will act like a bar magnet. So, statement (a) and (b) both are correct.

Inside a solenoid magnetic field $B = \mu_0 nI$,

This means, $B \propto I$ and $B \propto n$.

If a soft iron core is placed inside a magnetic field, it will change the magnetization of solenoid. Hence its magnetization will decrease. So, statement (d) is incorrect.

13. Option (b) is correct.

Explanation:

Given, $V_2 = V_1 = V$

$$\rho_1 = \rho_0, \rho_2 = 2\rho_0$$

$$\text{Average density} = \frac{\text{Total mass}}{\text{Total volume}}$$

$$= \frac{m_1 + m_2}{V_1 + V_2} = \frac{\rho_1 V_1 + \rho_2 V_2}{V_1 + V_2}$$

$$= \frac{\rho_0 V + 2\rho_0 V}{V + V} = \frac{3\rho_0}{2}$$

14. Option (a) is correct.

Explanation:

Inside a pressure cooker, as pressure increases, boiling point of the solution/liquid inside the cooker increases.

15. Option (d) is correct.

Explanation:

Wavelengths of x-ray lie in the range of 0.1 nm–10 nm.

16. Option (a) is correct.

Explanation:

Power of bulb, $P = VI$

$$= 220 \times 600 \times 10^{-3} = 132 \text{ watt}$$

17. Option (d) is correct.

Explanation:

Pitch of a sound is directly proportional to its frequency. If pitch is increasing, this means frequency of sound, wave velocity will increase while wavelength will decrease.

18. Option (a) is correct.

Explanation:

Order of reactivity of metal:

$\text{Na} > \text{Ca} > \text{Mg} > \text{Al} > \text{Zn} > \text{Fe} > \text{Sn} > \text{Pb} > \text{Cu} > \text{Ag}$.

The reactivity of elements (metals) with water decreases towards the right in a period. It also increases down the group. But, zinc is more reactive towards water than iron.

19. Option (b) is correct.

Explanation:

Metals float on water because of two reasons: they are very light weight metals and they react

very aggressively with water to form hydrogen gas which helps them to float in water.

Metals react with water to give hydroxides and hydrogen gas. Calcium reacts less vigorously with water to form hydrogen gas. The metal starts floating because the bubbles of hydrogen gas formed stick to the surface of the metal.

20. **Option (c) is correct.**

Explanation:

A substance can only conduct electricity if it contains charged particles (electrons or ions) that are free to move around. Sugar solution does not form ion, hence it does not conduct electricity in aqueous solution.

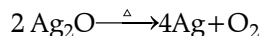
21. **Option (b) is correct.**

Explanation:

Helium is used as a diluent for oxygen in modern diving apparatus because of its very low solubility in blood. The main reason for adding helium to the breathing mixture is to reduce the proportions of nitrogen and oxygen below than those of air, to allow the gas mixture to be breathed safely on deep dives.

22. **Option (b) is correct.**

Explanation:



Thermal decomposition reactions usually occur at very high temperatures. It is a process in which a compound breaks into two or more products when the heat is supplied.

23. **Option (a) is correct.**

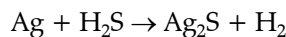
Explanation:

The brain and spinal cord contain nerve cells that are responsible for sending and receiving information to and from the body. In order to transmit electrical signals by nerve cells, sodium is needed by the body. An electrical impulse is set off by the sodium-potassium pump and passes from one nerve cell to the next, transmitting messages between the brain, spinal cord, and the rest of the body.

24. **Option (c) is correct.**

Explanation:

The phenomenon is known as corrosion. It is called silver tarnishing, particularly for silver. The black substance obtained is known as silver sulphide.



25. **Option (d) is correct.**

Explanation:

Accommodation of eye helps in seeing objects placed at different places.

26. **Option (d) is correct.**

Explanation:

Adrenaline is a hormone secreted by the adrenal glands, which are located on top of both the kidneys. Adrenaline hormone is secreted in response to stress that results in an increased heart rate. It increases the systolic blood pressure and makes the heart beat faster so as to increase the blood flow to the brain and muscles.

27. **Option (b) is correct.**

Explanation:

Bile is produced by the liver and stored in the gall bladder. Lipase is an enzyme, primarily produced by the pancreas. Both bile and lipase enzyme are required for the breakdown of fat into fatty acids for absorption in the intestine. Bile helps in the emulsification of fats which helps the enzyme lipase to breakdown fat more easily.

28. **Option (b) is correct.**

Explanation:

Cell wall is a structure found only in the plant cells. It is primarily made up of cellulose fibers. Both animal and plant cells have cell membrane, which is primarily composed of phospholipids and proteins but small quantity of carbohydrates are also present.

29. **Option (d) is correct.**

Explanation:

Lymph is a clear watery fluid very similar to the composition of blood plasma. It is derived from the plasma as fluids flowing through the capillary walls at the end of arteries. Lymph is rich in white blood cells.

30. **Option (a) is correct.**

Explanation:

The breakdown of glucose in the cytoplasm is the first stage of cellular respiration, which

is known as glycolysis. The end products of glycolysis are pyruvate and energy.

31. Option (c) is correct.

Explanation :

Spanish tennis player, Rafael Nadal has won the French Open 2022, defeating Casper Ruud (Norwegian) in the final. The 2022 French Open concluded on 5th June at the Stade Roland Garros in Paris, France. It is one of the four Grand Slams of Tennis.

32. Option (a) is correct.

Explanation :

Government of India's free telemedicine service, e-Sanjeevani has recently been integrated with the Ayushman Bharat Digital Mission. This integration allows existing users of e-Sanjeevani, the telemedicine service of the Ministry of Health and Family Welfare, to easily create their Ayushman Bharat Health Account (ABHA) and use it to manage their existing health records.

33. Option (c) is correct.

Explanation :

Both the above statements are correct regarding 'SHRESHTA' scheme, launched recently by the Government of India. The objective of SHRESHTA is to provide residential education facilities to the students in the targeted areas. SHRESHTA has been designed with an aim to provide quality education and opportunities for even the poorest scheduled caste students.

34. Option (a) is correct.

Explanation :

The Supreme Court gave an important direction on 3rd June 2022, to make the country's parks and wildlife sanctuary more sustainable and safe than ever before. The Court directed that there shall be a mandatory eco-sensitive zone of at least one kilometer from the demarcated boundaries of every national park and wildlife sanctuary in the country. Earlier, this limit was 10 kms.

35. Option (b) is correct.

Explanation :

Tomb of Sand (Reet Ka Maqbara) is a Hindi-language novel written by Geetanjali Shree. This novel is the story of a sad and depressed 80 year old woman. This Novel was also translated

into English by Daisy Rockwell. 'Tomb of Sand' is the first Hindi novel to win International Booker Prize.

36. Option (b) is correct.

Explanation :

John Kay invented the flying shuttle machine in 1733, which was an important step towards automatic weaving. Prior to this invention, thread was applied by hand in previous looms. But the invention of this automatic machine made the work of weavers easier.

37. Option (a) is correct.

Explanation :

On 21 October 1943, Netaji Subhas Chandra Bose announced the formation of the Provisional Government in Singapore. Subhas Chandra Bose himself, as the state's prime minister and war minister, established the Azad Hind government. With the formation of the Provisional Government of Azad Hind, Indian communities were mobilized for armed struggle.

38. Option (a) is correct.

Explanation :

Objectives resolution was passed by Pandit Jawaharlal Nehru on 13th December 1946. This resolution was passed in the first session of the Constituent Assembly. This proposal contained the basic ideology and philosophy of the Constitution. The resolution contains the ideals of an independent sovereign republic with autonomous units, adequate minority safeguards and social, political and economic democracy.

39. Option (b) is correct.

Explanation :

Chronological order	Historical events	Year of events
4	Peasant Movement in Kheda	1918
3	Peasant Movement in Bardoli	1928

1	Gandhi-Irwin Pact	March 5, 1931
2	Second Round Table Conference	7 Sept 1931 – 1 Dec 1931

40. Option (c) is correct.

Explanation :

Both the above statements are correct regarding the Unionist Party. The National Unionist Party was a political party operating in the Punjab region during the period of British rule in India. The Unionist Party mainly represented the interests of the zamindars and zamindars of Punjab, which included Muslims, Hindus and Sikhs. This party has always been opposed to the partition of India into India and Pakistan.

41. Option (a) is correct.

Explanation :

From the above, only first statement is incorrect regarding metamorphic rock. In metamorphic rocks, foliation is not caused by segregation of minerals into wavy bands or platy surfaces, but foliation occurs when pressure squeezes flat or elongate minerals within a rock, causing them to align. These rocks develop a platy or sheet-like structure indicating the direction in which the pressure was applied. Rest all the statements are correct.

42. Option (b) is correct.

Explanation :

The Mohorovicic discontinuity is also known as the Moho discontinuity. It is the boundary between the Earth's crust and the mantle. It means, it separates the crust from the mantle.

43. Option (a) is correct.

Explanation :

From the above options, Kampala, the capital of Uganda, represent the greatest linear velocity of rotation of the Earth. The linear velocity is approximately 20.944 inches per second. For these problems, we will assume that the Earth is a sphere with a radius of 3959 miles. As the Earth rotates on its axis, a person standing on the Earth will travel in a circle that is perpendicular to the axis.

44. Option (d) is correct.

Explanation :

Crossing the International Date Line is one of the rare thrills of travel. The international date line (IDL) is an imaginary line that runs along the Earth's surface from the North Pole to the South Pole in the middle of the Pacific Ocean.

When we cross it, we either gain or lose a day depending on which way we are traveling.

If we are traveling westward, we gain a day, and if we are traveling eastward, we lose a day.

45. Option (a) is correct.

Explanation :

Among the above options, Morocco is the only country through which the Prime Meridian does not pass. In Africa the Prime Meridian passes through Algeria, Mali, Burkina Faso, Tongo and Ghana.

46. Option (b) is correct.

Explanation :

Paleogeomorphology is a branch of geomorphology concerned with the study of ancient topographic features. Paleogeomorphic is used to prepare and analyze historical maps of the Earth. Paleogeomorphic traps form a third and distinct group that are used by geoscientists as a major mechanism for the localization of hydrocarbon events.

47. Option (c) is correct.

Explanation :

Uniform or constant acceleration means rate of change of velocity is constant. This is possible only when graph of velocity – time graph is a straight line.

48. Option (b) is correct.

Explanation :

Amplitude of any wave means how far medium particles are getting displaced, which is equivalent to distance travelled by particle. Hence, it is measured in meter (SI unit).

49. Option (c) is correct.

Explanation :

$$q=It=0.6 \times 10 \times 60=360 \text{ C}$$

50. **Option (c) is correct.**

Explanation :

DC generator converts mechanical energy into electrical energy. It applies concept of electromagnetic induction, according to which, "when a conductor is placed in changing magnetic field, current gets induced in it".

51. **Option (c) is correct.**

Explanation :

Magnetic needle has a small magnet. Its magnetic field in the presence of other magnetic field reacts and needle shows deflection. So magnetic needle or compass can be used to measure presence or direction of magnetic field. Ammeter and voltmeter are used to measure current and voltages respectively.

52. **Option (d) is correct.**

Explanation :

Speed is a scalar quantity. Velocity of an object is its speed in a particular direction, so it is a vector quantity.

53. **Option (b) is correct.**

Explanation :

Bronze, an alloy is traditionally composed of copper and tin. Bronze was one of the earliest metals to be discovered, around 3500 BC (the Bronze Age), and before chemical parameters had been put in place for the alloying of this metal.

54. **Option (a) is correct.**

Explanation :

The number of water molecules present in one formula unit of salt is known as the water of crystallisation. Water being the common solvent to be found in crystals because of its polarity and smaller size hence, may sometimes incorporate within the crystal lattice.

Blue vitriol is copper sulphate pentahydrate $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$. It has 5 moles of water.

Washing soda is sodium carbonate decahydrate $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$

Mohar's salt $(\text{NH}_4)_2\text{Fe}(\text{SO}_4)_2 \cdot 6\text{H}_2\text{O}$

Potassium permanganate KMnO_4

55. **Option (d) is correct.**

Explanation :

Bee sting release methanoic acid or formic acid. The chemical formula of methanoic acid is HCOOH . When a bee stings, it injects methanoic acid into the skin which causes immense pain and irritation. We can get relief from this acid by rubbing baking soda on the affected area.

56. **Option (a) is correct.**

Explanation :

Vegetable oils may be converted from liquids to solids by the hydrogenation reaction. Margarines and shortenings are "hardened" in this way to make them solid. Margarine has traditionally been manufactured by hydrogenation of vegetable oils (olive, palm, sunflower seed, etc.) by an industrial process for converting these oils into a solid, stable, and spreadable substance.

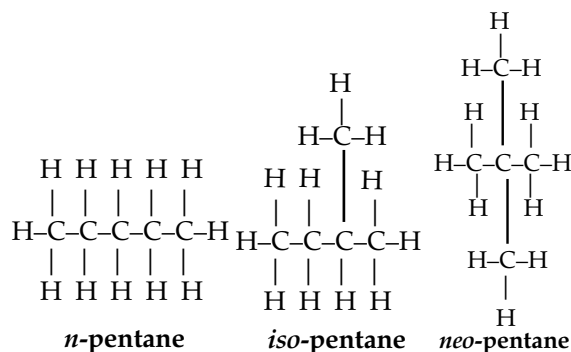
57. **Option (d) is correct.**

Explanation :

Isomers have same molecular formula but different structure.

Pentane $\rightarrow \text{C}_5\text{H}_{12}$

Therefore, three structural isomers can be drawn from pentane.



58. **Option (a) is correct.**

Explanation :

Once the molten rock emerges from a volcano at the surface and most of the gases have escaped, it is called lava. Lava is largely degassed magma. Although some lava flows are very fast flowing and look very fluid, one must not forget that they are much denser than water.

59. **Option (a) is correct.**

Explanation :

Sublimation, which means it changes from a solid directly into a gas, without melting into a liquid first. Dry ice is made by liquefying carbon dioxide and injecting it into a holding tank, where it is frozen at a temperature of -109°F and compressed into solid ice.

60. **Option (b) is correct.**

Explanation :

C_3H_6 , C_4H_8 and C_5H_{10} belong to the same homologous series. Butene is third member of alkene family have general formula C_nH_{2n} .

61. **Option (c) is correct.**

Explanation :

The gastric chief cells produce the precursor of pepsin known as pepsinogen. The hydrochloric acid secreted by the parietal cells of the stomach reduces the pH, which in turn activates the enzyme pepsin that is required for digesting proteins.

62. **Option (a) is correct.**

Explanation :

When an animal cell is placed in a medium with lower water concentration, that is hypertonic to the cell, the cell will lose water due to exosmosis. A solution will be hypertonic to a cell if its solute concentration is higher than the cell.

63. **Option (c) is correct.**

Explanation :

Lysosomes are membrane-bound cell organelles in the eukaryotic cells that are responsible for containing digestive enzymes. They contain around 50 different digestive enzymes, which can hydrolyze proteins, lipids, nucleic acids, and so on. Lysosomes are known as suicidal bags of the cells.

64. **Option (b) is correct.**

Explanation :

Fertilisation is the fusion of male sperm and female egg. After fertilisation, ovary and ovule become fruit and seed respectively. Embryo is

present inside the seed which will give rise to a new plant after seed germination.

65. **Option (b) is correct.**

Explanation :

Puneet Sagar Abhiyan was launched by NCC to clean up beaches and other water bodies including rivers and lakes, plastic and other waste. It aims to raise awareness among the local population about the importance of keeping beaches and river banks clean. National Cadet Corps (NCC) launched the campaign on 30 May 2022 and it continued till 5th June 2022, the World Environment Day.

66. **Option (b) is correct.**

Explanation :

World Environment Day is the biggest international day for the environment. It is led by the United Nations Environment Programme (UNEP), and held annually since 1973.

It is observed every year on 5th June. World Environment Day 2022 was hosted by Sweden. "Only One Earth" was the campaign slogan.

67. **Option (b) is correct.**

Explanation :

Generally, the Indian Navy assesses the age and capability of its ships and retires the obsolete ships with great respect. INS Nishank and INS Akshay were decommissioned on 3rd June 2022 by the Indian Navy at the Naval Dockyard, Mumbai. The ships were in active naval service for more than 32 years and participated in several naval operations including Op Talwar during the Kargil War and Op Parakram in 2001.

68. **Option (d) is correct.**

Explanation :

India has signed a contract with the USA for the supply of MH-60R helicopters. In the first tranche of this agreement, the Indian Navy received two MH-60R multi-role helicopters in Kochi port on July 2022. India has signed a 24-helicopter supply agreement with the

United States of America to modernize the aging naval helicopter fleet in the country.

69. **Option (d) is correct.**

Explanation:

Surat and Udayagiri are the warships of the Indian Navy which have recently been inducted into the Navy. 'Surat' is the fourth guided missile destroyer of the P15B class, while 'Udayagiri' is the second stealth frigate of the P17A class. They joined the Indian Navy on 17th May 2022, which are warships of state-of-the-art technology.

70. **Option (a) is correct.**

Explanation:

The Vijayanagara Empire was established in 1336 by the brothers Harihara I and Bukka Raya I of the Sangama dynasty. Virupaksha Raya II was the last ruler of the Sangama Dynasty of Vijayanagara.

71. **Option (b) is correct.**

Explanation:

The book, *Kalila wa Dimna* is the Urdu translation of the book Panchatantra. 'Abdullah Ibn al-Muqaffa' translates Panchatantra into Urdu.

72. **Option (b) is correct.**

Explanation:

The Bhoodan movement was a major step in the field of economic and social reforms during the decades of 1950s. The Bhoodan Movement, also known as the Bloodless Revolution. It was a voluntary land reform movement. It was started by Gandhian Vinoba Bhave in 1951 in Pochampally village, Pochampally.

73. **Option (d) is correct.**

Explanation:

Hydaspes river in India was not crossed by Alexander and his army. Alexander's army was at war for a long time, apart from this, he did not even know much about the military power of the Indian kings. Fearing the prospect of encountering other powerful Indian armies, Alexander's army revolted on the banks of the Hydaspes River and refused to go further.

74. **Option (c) is correct.**

Explanation:

Ibn Battuta was a medieval Muslim traveler, who has described the medieval Indian postal system as of two kinds: The horse post, known as uluks, is manned by royal horses stationed every four miles. The foot-post has three stations per mile; one third of a mile is named Dawa.

75. **Option (a) is correct.**

Explanation:

The Indus Valley Civilization is one of the oldest civilizations in the world. Kalibangan in Rajasthan was a major provincial capital of the Indus Valley Civilization. During the excavation in this Harappan site, archaeologists have found Yagvedi (Fire Altar). Kalibanga is known for its unique fire altars and modern farming system.

76. **Option (c) is correct.**

Explanation:

All of the above statements are true regarding the computation of density. We can calculate the density of all the three types of population as follows.

For the purpose of the computation of the physical population density, we divide the total population by the area of agricultural land. Agricultural density can be calculated by dividing the area of agricultural land by the population of farmers in that area. To calculate population density, you would divide the population by the size of the area. Thus, population density = number of people / land area. The computation of physical population density helps determine how many people depend on an area of land for food while computation of agricultural density giving you the average land worked by each farmer.

77. **Option (a) is correct.**

Explanation:

Tors are conspicuous rock masses that rise above the surrounding ground surfaces. Tors are landforms created by the erosion and weathering of rock; most commonly granites.

78. Option (b) is correct.

First two statements from the above is correct regarding anticyclones and third statement is incorrect. Anticyclones are characterized by 'Blocking Highs'. Anticyclones are much larger than depressions and produce periods of settled and calm weather lasting many days or weeks. Anticyclones often block the path of depressions, either slowing down the bad weather, or forcing it round the outside of the high pressure system.

79. Option (a) is correct.**Explanation :**

Only one statement from the above is true. It is true that the nature of the earth's crust is brittle. From clay to diamonds and coal, the Earth's crust is made up of igneous, metamorphic and sedimentary rocks. Oceanic crust is thinner than continental crust. The average thickness of the oceanic crust is 5 km while that of the continental one is about 30 km. Thus statement (2) is incorrect.

80. Option (d) is correct.**Explanation :**

Dadra and Nagar Haveli and Daman and Diu were separate union territories before 2020. The Home Minister of the Government of India introduced the bill related to their merger in the Lok Sabha on 26 November 2019. The Bill provides for the merger of the Union Territories (UTs). The territories (UT) of Dadra and Nagar Haveli, and Daman and Diu were merged into a single Union Territory in January 2020.

81. Option (b) is correct.**Explanation :**

Given lenses are convex, so focal length will be positive.

$$P_1 = \frac{100v}{f_1} = \frac{100}{50} = +2D$$

$$P_2 = \frac{100}{f_2} = \frac{100}{-25} = +4D$$

$$P = P_1 + P_2 = 2 + 4 = +6D$$

82. Option (b) is correct.**Explanation :**

$P = VI = I^2 R = \frac{V^2}{R}$. So option (b) is a wrong formula of power.

83. Option (c) is correct.**Explanation :**

$$\mu = \frac{\text{Speed of light in vacuum}}{\text{Speed of light in medium}} = \frac{c}{v}$$

$$\frac{3}{2} = \frac{c}{v} \Rightarrow v = \frac{2}{3}c$$

84. Option (a) is correct.**Explanation :**

$$\text{Density of object, } \rho = \frac{\text{mass}}{\text{volume}} = \frac{800}{1000} = 0.8 \text{ gcm}^{-3}$$

Since density of object is less than both water and liquid B. So it will float on them.

85. Option (b) is correct.**Explanation :**

Time period of a pendulum is given by,

$$T = 2\pi \sqrt{\frac{l}{g}}$$

Since time period is independent upon mass, so changing mass of bob won't change T.

Also, $T \propto \sqrt{l}$. So if length becomes half, time period will be $\frac{T}{\sqrt{2}}$.

86. Option (c) is correct.**Explanation :**

Solar cell converts solar energy into electrical energy, all other given device consumes electrical energy.

87. Option (d) is correct.**Explanation :**

The powers, duties and rights of Panchayati Raj have been discussed in Article 243G of the Indian Constitution. The regulation of land revenue is not the subject matter of the Panchayats. The Every village panchayat may levy in its area a property tax, a profession tax, an advertisement tax and an entertainment tax.

88. Option (c) is correct.**Explanation :**

Mahamatta		Function	
A	Anta-mahamatta	4	In-charge of frontier areas

B	Ithihakha-mahamatta	1	Women's welfare
C	Dhamma-mahamatta	2	Spread of Dhamma
D	Nagaluiyohalaka mahamatta	3	Associated with city administration

89. **Option (a) is correct.**

Explanation :

Hesteryurveda is a treatise on the lifestyle of elephants. This book classifies elephants as wild and domesticated. It is a complete science of elephants considering all the facts about wild and domesticated elephants. This Samhita was composed by Palakapya.

90. **Option (a) is correct.**

Explanation :

Cuttack was acquired by the British under the Treaty of Deogaon, 1803. The Treaty of Deogaon was signed on 17th December 1803 between Sir Arthur Wellesley and Raghuji Bhonsle. With this agreement, the English acquired Cuttack, Balasore and area west of Wardha River.

91. **Option (c) is correct.**

Explanation :

Both the above statements are correct regarding Maharashtra state. Maharashtra has the largest network of National Highways with 17,757 km. It is true; the level of economic development is one of the reasons for the maximum share of national highways in Maharashtra.

92. **Option (b) is correct.**

Explanation :

Quinary activities are services that focus on the creation, rearrangement and interpretation of new and existing ideas; data interpretation and the use and evaluation of new technologies. People involved are referred to as gold collar workers.

93. **Option (c) is correct.**

Explanation :

Both the statements are correct regarding 'Ude Desh ka Aam Nagrik (UDAN)' scheme. Regional Connectivity Scheme of Ministry of Civil Aviation Scheme (UDAN) was initiated in

2016. Its goal is to make air travel affordable and improve economic development in India. It is an innovative scheme to develop the regional aviation market.

94. **Option (b) is correct.**

Explanation :

From the above, two statement, (1) and (3) are correct but statement (2) is incorrect. Jog Falls is second-highest plunge waterfall in India formed by the Sharavati River. The Brahmani is formed by the confluence of the Shankh and Dakshin Koel rivers, and flows through the districts of Sundergarh, Deogarh, Angul, Dhenkanal, Cuttack, Jajapur and Kendrapara. Tamirabharani is the only perennial river in Tamil Nadu. Thus, only second statement is incorrect.

95. **Option (c) is correct.**

Explanation :

SONAR technology uses ultrasonic waves, whose frequency is greater than 20,000 Hz. Many animals use this techniques for navigation purpose. These waves don't lies in audible range.

96. **Option (b) is correct.**

Explanation :

Speed of sound order: solid > liquid > Gas. This means speed of sound will be higher in steel, than in water, than in air. So, option (a) and (d) are correct.

Speed of sound increases with increase in temperature. Hence, option (b) is incorrect.

97. **Option (b) is correct.**

Explanation :

Cochlea changes the sound vibration in electrical signal form and send to brain for further processing.

98. **Option (d) is correct.**

Explanation :

Tungsten (W) has high resistivity and high melting point. It doesn't not react with oxygen easily even at high temperature. Inside bulb temperature is very high to cater it. That's why Tungsten is used in bulb filament.

99. **Option (c) is correct.**

Explanation :

Applying law of conservation on momentum,

$$P_i = P_f$$

$$0 = 1 \times v + \frac{10}{1000} \times 300$$

100. **Option (b) is correct.**

Explanation :

A microphone intercepts sound and converts it into electrical signal form. This signal then transferred for further processing.